

AMENDMENTS TO THE CLAIMS

1-30. (Cancelled)

31. (New) A method of manufacturing a starch-based pigment or filler comprising the steps of:

dissolving a starch derivative having a glass transition point of 60°C to 350°C in a mixture of a solvent and water so that a solution comprising the starch derivative is formed;

bringing the solution into contact with a non-solvent in which the starch derivative is not dissolved so as to precipitate the starch derivative from a dispersion which is formed from the solvent and the water, so that a precipitate comprising the starch derivative and a liquid phase comprising both the solvent and the water are formed;

removing the solvent from the liquid phase; and

separating from the water and recovering the precipitate to obtain the starch-based pigment or filler.

32. (New) The method according to claim 31, wherein the solvent is used in a minimum amount to dissolve the starch derivative or in an amount of 20 % by weight more than the minimum amount.

33. (New) The method according to claim 31, wherein the concentration of the solution is at least 1 % by weight.

34. (New) The method according to claim 31, wherein the concentration of the solution is 10-30 % by weight.

35. (New) The method according to claim 31, wherein the viscosity of the solution is 1-5 times the viscosity of the water.

36. (New) The method according to claim 31, wherein the starch derivative has a glass transition point of at least 100°C, or is not broken down at the temperature.

37. (New) The method according to claim 31, wherein the starch derivative is a starch ester.

38. (New) The method according to claim 37, wherein the starch ester is an ester formed of starch and C₁₋₄ alkane acid.

39. (New) The method according to claim 37, wherein the starch ester is a starch acetate.

40. (New) The method according to claim 37, wherein the starch ester is transglycosylated or hydroxy alkylated.

41. (New) The method according to claim 31, wherein a degree of substitution of ester groups of the starch derivatives is chosen in a way that the starch derivative is substantially insoluble in the non-solvent.

42. (New) The method according to claim 31, wherein after the solvent is removed, the precipitate separated from the liquid phase does not contain such amount of solvent residues that the solvent can be detected with a 300 MHz NMR device.

43. (New) The method according to claim 31, wherein the solvent can be completely mixed with the non-solvent.

44. (New) The method according to claim 31, wherein the amount of the non-solvent is 0.1-100 times the amount of the solvent by weight.

45. (New) The method according to claim 31, wherein the amount of the non-solvent is 0.5-10 times by weight of the amount of the solvent.

46. (New) The method according to claim 31, wherein the amount of the non-solvent is 0.7-5 times by weight of the amount of the solvent.

47. (New) The method according to claim 31, wherein the non-solvent is added, while mixing, to the solution of the starch derivative so as to produce spherical pigment particles.

48. (New) The method according to claim 47, wherein the spherical pigment particles have an average particle size of 90-1000 nanometers.

49. (New) The method according to claim 47, wherein fine particles dispersed in the liquid phase are precipitated by salting out after the starch derivative is precipitated from the solution.

50. (New) The method according to claim 31, wherein the solution is added, while mixing, to the non-solvent so as to produce a coral-like, porous pigment.

51. (New) The method according to claim 50, wherein the pigment or filler has a particle size of 1-100 micrometres and pores having an average diameter of 100-500 nanometres.

52. (New) The method according to claim 31, wherein the solution comprising the starch derivative is brought into contact with the non-solvent in a turbulent condition.

53. (New) The method according to claim 31, wherein the amount of the non-solvent is 0.1-100 times the amount of the solvent by weight.

54. (New) The method according to claim 31, wherein the amount of the non-solvent is 0.5-10 times the amount of the solvent by weight.

55. (New) The method according to claim 31, wherein the amount of the non-solvent is 0.7-5 times the amount of the solvent by weight.

56. (New) A starch-based pigment or filler product, comprising:
a starch derivative having a glass transition point of at least 60 °C and below 350 °C; and
spherical starch derivative particles, the average particle size of which is 90-1000 nanometers, wherein

the starch-based pigment or filler product is prepared by the method according to claim 31.

57. (New) The pigment or filler product according to claim 56, wherein the pigment or filler product has at least 80 of ISO brightness.

58. (New) A pigment or filler product comprising:
a starch derivative having a glass transition point of at least 60 °C and below 350 °C;
a nanoporous, coral-like material, the particle size of which is 1-100 micrometres,
wherein
the pigment or filler product is prepared by the method according to claim 31.

59. (New) The pigment or filler product according to claim 58, wherein the starch derivative is a starch ester.

60. (New) The pigment or filler product according to claim 59, wherein the starch ester is an ester formed of starch and C₁₋₄ alkane acid.

61. (New) The pigment or filler product according to claim 59, wherein the starch ester is starch acetate.

62. (New) The pigment or filler product according to claim 59, wherein the starch ester is transglycosylated or hydroxy alkylated.

63. (New) A product comprising the pigment or filler product according to claim 56 or 58, the product is a paper product, a cardboard product, a paint product, a plastic product, a rubber product , a cosmetic product, a hygiene product, or a detergent product.